

Claim 1. (Currently amended) An apparatus for endovascular therapy by occluding a physical anomaly, said anomaly having an interior, comprising:

- a shape memory material body for positioning in the interior of the physical anomaly, wherein said shape memory material body comprises a shape memory polymer foam;
- a delivery system for delivering said shape memory material body that comprises a shape memory polymer foam into the interior of the physical anomaly; and
- a system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape for occluding the physical anomaly and a secondary shape for being delivered into the interior of the physical anomaly;

wherein said shape memory foam is a shape memory polymer foam composed of a polyurethane shape memory polymer with an open cell foam structure.

Claims 2-5 (cancelled)

Claim 6. (Previously presented) The apparatus of claim 1 wherein said shape memory polymer foam is a shape memory polymer foam with an open cell foam structure including a light absorbing dye.

Claim 7. (cancelled)

Claim 8. (Previously presented) The apparatus of claim 1 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises radiology.

Claim 9. (Previously presented) The apparatus of claim 1 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises electromagnetic energy.

Claim 10. (Previously presented) The apparatus of claim 1 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises electromagnetic energy delivered optically.

Claim 11. (Previously presented) The apparatus of claim 1 wherein said shape memory material body that comprises a shape memory polymer foam is a collapsed shape memory polymer foam device connected at the end of a guide wire.

Claim 12. (Previously presented) The apparatus of claim 1 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a system for optical heating using optic fibers to transport light energy to said shape memory material body that comprises a shape memory polymer foam.

Claim 13. (Previously presented) The apparatus of claim 1 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a laser and an optical fiber wherein said laser transmits laser light through said optical fiber.

Claim 14. (Previously presented) The apparatus of claim 1 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a laser and an optical fiber wherein said laser transmits laser light through a multimode optical fiber.

Claim 15. (Previously presented) The apparatus of claim 1 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a light absorbing material.

Claim 16. (Previously presented) The apparatus of claim 1 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a light absorbing dye in an elastomeric coating on said shape memory material body that comprises a shape memory polymer foam.

Claims 17-22. (Cancelled)

Claim 23. (Currently amended) An apparatus for endovascular therapy by occluding an aneurism having an interior, comprising:

shape memory polymer material body for being positioned in the interior of the aneurism, wherein said shape memory polymer material body comprises a shape memory polymer foam;

a delivery system for delivering said shape memory polymer material body that comprises a shape memory polymer foam into the interior of the aneurism; and

an activation system for providing said shape memory polymer material body with a primary shape for occluding the aneurism and a secondary shape for being positioned in the interior of the aneurism;

wherein said shape memory polymer material body that comprises a shape memory polymer foam is a collapsed shape memory polymer foam device connected at the end of a guide wire.

Claims 24-25. (Cancelled)

Claim 26. (Previously presented) The apparatus of claim 23 wherein said shape memory polymer material body that comprises a shape memory polymer foam is a shape memory polymer foam with an open cell foam structure including a light absorbing dye.

Claims 27-29. (Cancelled)

Claim 30. (Currently amended) The apparatus of claim 23 wherein said activation system for providing said shape memory material body means with a primary shape and a secondary shape comprises radiology.

Claim 31. (Currently amended) The apparatus of claim 23 wherein said activation system for providing said shape memory material polymer body means with a primary shape and a secondary shape comprises electromagnetic energy.

Claim 32. (Currently amended) The apparatus of claim 23 wherein said activation system for providing said shape memory material body means with a primary shape and a secondary shape comprises electromagnetic energy delivered optically.

Claim 33 (cancelled).

Claim 34. (Previously presented) The apparatus of claim 23 wherein said activation system for providing said shape memory polymer material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a system for optical heating using optic fibers to transport light energy to said shape memory material body that comprises a shape memory polymer foam.

Claim 35. (Previously presented) The apparatus of claim 23 wherein said activation system for providing said shape memory polymer material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a laser and an optical fiber wherein said laser transmits laser light through said optical fiber.

Claim 36. (Previously presented) The apparatus of claim 23 wherein said activation system for providing said shape memory polymer material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a laser and an optical fiber wherein said laser transmits laser light through a multimode optical fiber.

Claim 37. (Previously presented) The apparatus of claim 23 wherein said activation system for providing said shape polymer memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a light absorbing material.

Claim 38. (Previously presented) The apparatus of claim 23 wherein said activation system for providing said shape memory polymer material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a light absorbing dye in an elastomeric coating on said shape memory material body that comprises a shape memory polymer foam.

Claims 39-56. (Cancelled)

Claim 57. (New) An apparatus for endovascular therapy by occluding a physical anomaly, said anomaly having an interior, comprising:

a shape memory material body for positioning in the interior of the physical anomaly, wherein said shape memory material body comprises a shape memory polymer foam;

a delivery system for delivering said shape memory material body that comprises a shape memory polymer foam into the interior of the physical anomaly; and

a system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape for occluding the physical anomaly and a secondary shape for being delivered into the interior of the physical anomaly;

wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises electromagnetic energy.

Claim 58 (New) The apparatus of claim 57 wherein said shape memory foam is a shape memory polymer foam composed of a polyurethane shape memory polymer with an open cell foam structure.

Claim 59. (New) The apparatus of claim 57 wherein said shape memory polymer foam is a shape memory polymer foam with an open cell foam structure including a light absorbing dye.

Claim 60. (New) The apparatus of claim 57 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises radiology.

Claim 61. (New) The apparatus of claim 57 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises electromagnetic energy delivered optically.

Claim 62. (New) The apparatus of claim 57 wherein said shape memory material body that comprises a shape memory polymer foam is a collapsed shape memory polymer foam device connected at the end of a guide wire.

Claim 63. (New) The apparatus of claim 57 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a system for optical heating using optic fibers to transport light energy to said shape memory material body that comprises a shape memory polymer foam.

Claim 64. (New) The apparatus of claim 57 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a laser and an optical fiber wherein said laser transmits laser light through said optical fiber.

Claim 65. (New) The apparatus of claim 57 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a laser and an optical fiber wherein said laser transmits laser light through a multimode optical fiber.

Claim 66. (New) The apparatus of claim 57 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a light absorbing material.

Claim 67. (New) The apparatus of claim 57 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a light absorbing dye in an elastomeric coating on said shape memory material body that comprises a shape memory polymer foam.

Claim 68. (New) An apparatus for endovascular therapy by occluding a physical anomaly, said anomaly having an interior, comprising:

a shape memory material body for positioning in the interior of the physical anomaly, wherein said shape memory material body comprises a shape memory polymer foam;

a delivery system for delivering said shape memory material body that comprises a shape memory polymer foam into the interior of the physical anomaly; and

a system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape for occluding the physical anomaly and a secondary shape for being delivered into the interior of the physical anomaly;

wherein said shape memory material body that comprises a shape memory polymer foam is a collapsed shape memory polymer foam device connected at the end of a guide wire.

Claim 69. (New) The apparatus of claim 68 wherein said shape memory foam is a shape memory polymer foam composed of a polyurethane shape memory polymer with an open cell foam structure.

Claim 70. (New) The apparatus of claim 68 wherein said shape memory polymer foam is a shape memory polymer foam with an open cell foam structure including a light absorbing dye.

Claim 71. (New) The apparatus of claim 68 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises radiology.

Claim 72. (New) The apparatus of claim 68 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises electromagnetic energy

Claim 73. (New) The apparatus of claim 68 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises electromagnetic energy delivered optically.

Claim 74. (New) The apparatus of claim 68 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a

secondary shape comprises a system for optical heating using optic fibers to transport light energy to said shape memory material body that comprises a shape memory polymer foam.

Claim 75. (New) The apparatus of claim 68 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a laser and an optical fiber wherein said laser transmits laser light through said optical fiber.

Claim 76. (New) The apparatus of claim 68 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a laser and an optical fiber wherein said laser transmits laser light through a multimode optical fiber.

Claim 77. (New) The apparatus of claim 68 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a light absorbing material.

Claim 78. (New) The apparatus of claim 68 wherein said system for providing said shape memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a light absorbing dye in an elastomeric coating on said shape memory material body that comprises a shape memory polymer foam.

Claim 79. (New) An apparatus for endovascular therapy by occluding an aneurism having an interior, comprising:

shape memory polymer material body for being positioned in the interior of the aneurism, wherein said shape memory polymer material body comprises a shape memory polymer foam;

a delivery system for delivering said shape memory polymer material body that comprises a shape memory polymer foam into the interior of the aneurism; and



an activation system for providing said shape memory polymer material body with a primary shape for occluding the aneurism and a secondary shape for being positioned in the interior of the aneurism;

wherein said activation system for providing said shape memory material polymer body with a primary shape and a secondary shape comprises electromagnetic energy.

Claim 80. (New) The apparatus of claim 79 wherein said shape memory polymer material body that comprises a shape memory polymer foam is a shape memory polymer foam with an open cell foam structure including a light absorbing dye.

Claim 81. (New) The apparatus of claim 79 wherein said activation system for providing said shape memory material body with a primary shape and a secondary shape comprises radiology.

Claim 82. (New) The apparatus of claim 79 wherein said activation system for providing said shape memory material body with a primary shape and a secondary shape comprises electromagnetic energy delivered optically.

Claim 83. (New) The apparatus of claim 79 wherein said shape memory polymer material body that comprises a shape memory polymer foam is a collapsed shape memory polymer foam device connected at the end of a guide wire.

Claim 84. (New) The apparatus of claim 79 wherein said activation system for providing said shape memory polymer material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a system for optical heating using optic fibers to transport light energy to said shape memory material body that comprises a shape memory polymer foam.

Claim 85. (New) The apparatus of claim 79 wherein said activation system for providing said shape memory polymer material body that comprises a shape memory polymer foam with a

primary shape and a secondary shape comprises a laser and an optical fiber wherein said laser transmits laser light through said optical fiber.

Claim 86. (New) The apparatus of claim 79 wherein said activation system for providing said shape memory polymer material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a laser and an optical fiber wherein said laser transmits laser light through a multimode optical fiber.

Claim 87. (New) The apparatus of claim 79 wherein said activation system for providing said shape polymer memory material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a light absorbing material.

Claim 88. (New) The apparatus of claim 79 wherein said activation system for providing said shape memory polymer material body that comprises a shape memory polymer foam with a primary shape and a secondary shape comprises a light absorbing dye in an elastomeric coating on said shape memory material body that comprises a shape memory polymer foam.